

REMARKS/ARGUMENTS

1. Claims 1-11, 13-25, 27-39, and 41-45 are Patentable Over the Cited Art

The Examiner rejected claims 1-11, 13-25, 27-39, and 41-42 as anticipated (35 U.S.C. §102(e)) by Diamond (U.S. Patent No. 6,591,295). Applicants traverse.

Amended independent claims 1, 15, and 29 concern enabling access to data, and require: receiving a call from a client to invoke a remote interface method; accessing, with a remote interface implementation, parameters from the received call in response to the invocation of the remote interface method; generating a stored procedure call with the accessed parameters as input parameters of the stored procedure; transferring the stored procedure call to a stored procedure named by the call to execute; receiving output from the stored procedure including multiple result sets, wherein each result set includes output from the stored procedure; inserting the received result sets from the stored procedure into a data object; and returning the data object to the client.

Applicants amended these claims as discussed during the phone interview to require that the output comprises multiple result sets and to specify that each result set includes output from the stored procedure, and that the result sets are inserted into the data object. These added requirements are disclosed on at least pg. 7, paras. [0021] to [0022] of the Specification.

The Examiner cited col. 2, lines 5-21, col. 7, lines 6-12 and 34-44, and col. 5, lines 1-25 of Diamond as disclosing the pre-amended claim limitation for receiving the output (Third Office Action, pg. 4), which now recites receiving output from the stored procedure including multiple result sets, wherein each result set includes output from the stored procedure. The Examiner further cited these sections of Diamond as disclosing the requirement of inserting the received result sets from the stored procedure into the data object. (Third Office Action, pg. 4) Applicants traverse.

The cited col. 2 mentions an interface between web based programs and a database to access objects stored in a database. A client browser sends to the Web agent a URL that has an ID of a host computer on the Internet and a Web agent that operates as an interface to a relational database, a specification of an SQL procedure for storing, retrieving or updating a data object,

and additional parameter information for specifying the location of the object in a database table and information need by the SQL procedure to manipulate the object.

Nowhere does the cited col. 2 anywhere disclose receiving output from the stored procedure including multiple result sets, where each result set includes output from the stored procedure. The cited col. 2 discusses how the procedure may be used to retrieve a particular data object or specify the location of the object in a database table. However, the cited col. 2 does not disclose receiving output from the stored procedure including multiple result sets and then inserting those result sets into one data object to return to the client invoking the call to the remote interface method.

The cited col. 7 mentions that when the Web agent receives the URL request, it checks the modification date of the object in the database and if more recent returns the content to the browser, and if not more recent returns status indicating that the browser has the most recent content. The cited col. 7 further mentions that when the web agent executes those procedures, it supplies information on the procedures necessary to locate the required data in the database. The Web agent constructs a block that invokes the procedure.

Nowhere does this cited col. 7 anywhere disclose receiving output from the stored procedure including multiple result sets, where each result set includes output from the stored procedure. The cited col. 7 discusses how the web agent may return the object and execute a procedure against the database. However, the cited col. 7 does not disclose receiving output from the stored procedure including multiple result sets and then inserting those result sets into one data object. The cited col. 7 mentions returning the content to the browser, but nowhere discloses that multiple result sets are inserted into one data object that is returned to the client.

The cited col. 5 mentions that the URL may include request_mode information to retrieve a result set from the database, and the name of the SQL procedure to retrieve or store data. Although the cited col. 5 mentions that the URL may be used to retrieve a result set, nowhere does the cited col. 5 anywhere disclose receiving output from the stored procedure including multiple result sets and then inserting those result sets into one data object. Instead, the cited col.

5 mentions retrieving one result set. Further, nowhere does the cited col. 5 disclose that multiple result sets are inserted into a single data object to return to the client.

Accordingly, claims 1, 15, and 29 are patentable over the cited art because the cited Diamond does not disclose all the claim requirements.

Claims 2-9, 11, 16-23, 25, 30-37, 39, and 43-45 are patentable over the cited art because they depend from one of claims 1, 15, and 29. The following dependent claims provide additional grounds of patentability over the cited art for the reasons discussed below.

Applicants amended claims 2, 16, and 30 to remove certain of the requirements and recite that the stored procedure generates the output from a database.

Amended claims 5, 19, and 33 depend from claims 1, 15, and 29 and further require processing an output mapping indicating how the stored procedure output result sets are mapped to the data object.

Applicants amended these claims to clarify that the output comprises result sets.

The Examiner cited the above discussed sections of Diamond as teaching the additional requirements of these claims. (Third Office Action, pg. 5). Applicants traverse.

As discussed, the cited Diamond discusses how a URL may be processed by a Web agent to invoke a procedure to return an object or a result set. However, the Examiner has not cited any part of Diamond that discloses an output mapping indicating how multiple result sets are mapped to one data object. The cited Diamond discusses how content from the database is returned to the client, but nowhere discloses an output mapping indicating how multiple result sets are mapped to one data object to return to the client.

The Examiner commented that the additional requirements of claim 5 are further inherent in the Java application result set. Applicants traverse this finding of inherency and request that the Examiner cite specific art disclosing the combination of requirements of a client invoking a stored procedure through a remote interface method to cause a remote interface implementation to generate a stored procedure call to retrieve multiple result sets, such that multiple result sets from the stored procedure are added to a single data object to return to the client.

Accordingly, claims 5, 19, and 33 provide additional grounds of patentability over the cited art because the cited Diamond does not disclose all the dependent claim requirements.

Claims 6-12, 20-26, and 34-40 are patentable over the cited art because they depend from the base claims 1, 15, and 29 and provide additional details concerning the stored procedure, data object and other elements, which in combination with the base claims provide further grounds of patentability over the cited art.

Further, to the extent the Examiner is referencing teachings “inherent in the Java application interfacing with the database”, Applicants traverse this finding and request that the Examiner site specific art disclosing the combination of requirements of a client invoking a stored procedure through a remote interface method to cause a remote interface implementation to generate a stored procedure call to retrieve multiple result sets, such that multiple result sets from the stored procedure are added to a single data object to return to the client. and the additional requirements specified in these additional dependent claims.

Amended independent claims 13, 27, and 41 concern making stored procedure programs available to application programs, and require: determining one stored procedure program generating output including multiple result sets, wherein each result set includes output from the stored procedure, needed by one application program; generating a remote interface implementation to respond to a remote interface method capable of receiving a call from the application program including data and invoking a stored procedure in a database server with the data from the application program used as input; and generating an output mapping for the remote interface implementation to use to determine how to insert the stored procedure output result sets into a data object that may be used by the application program.

Applicants amended these claims in a manner similar to the amendments to claims 1, 15, and 29 to require that the stored procedure output comprises multiple result sets that are inserted into the data object to return to the client.

The Examiner cited the above discussed sections of Diamond as disclosing the requirements of these claims. (Third Office Action, pgs. 7-8)

As discussed above, the cited Diamond does not disclose the combination of the requirements including receiving output including multiple result sets from a stored procedure in response to a remote interface method and inserting the result sets into one data object to return to the client.

Accordingly, claims 13, 27, and 41 are patentable over the cited art because the cited Diamond does not disclose all the claim requirements.

Claims 14, 28, and 42 are patentable over the cited art because they depend from claims 13, 27, and 41, which are patentable over the cited art for the reasons discussed above.

Claims 43, 44, and 45 depend from claims 1, 15, and 29 and further require that the stored procedure executes in a database server and wherein the received output comprises output from a database, wherein the database server and the remote interface implementation are implemented on a same machine, wherein the remote interface implementation performs the operations of generating the stored procedure call, transferring the stored procedure call, receiving the output, inserting the received output from the stored procedure, and returning the data object to the client.

The Examiner cited the above discussed sections of Diamond as disclosing the additional requirements of these claims. (Third Office Action, pg. 8)

The above cited Diamond discusses how a browser sends a URL to a Web agent to execute a procedure to operate on data objects in a relational database. FIG. 1 shows the components of the client, Web agent, Stored procedures and relational database. However, the Examiner has not cited any part of Diamond that discloses that the database server and the remote interface implementation, which corresponds to the Web agent in Diamond, are on a same machine.

Accordingly, claims 43, 44, and 45 provide additional grounds of patentability over the cited art because the cited Diamond does not disclose all the dependent claim requirements.

2. Claims 12, 26, and 40 are Patentable Over the Cited Art

The Examiner rejected claims 12, 26, and 40 as obvious (35 U.S.C. §103) over Diamond in view of Clegg (U.S. Patent No. 6,356,946). Applicants traverse and submit that these claims are patentable over the cited art because they depend from claims 1, 15, and 29, which are patentable over the cited art for the reason discussed above.

Moreover, Applicants submit that the combination of these requirements provide further grounds of patentability over the cited art because the Examiner has not cited any teaching or suggestion to modify the system of Diamond to implement the claimed remote interface implementation as an Enterprise JavaBean and the data object as a Java serializable object. Instead, in Diamond, the client invokes the Web agent to call the stored procedure through a URL including information on the stored procedure to call to access an object in a database.

3. Added Claims 46-51 are Patentable Over the Cited Art

Applicants added claims 46, 48, and 50 that depend from claims 1, 15, and 29 and further require that each result set includes a column and data type structure, and wherein at least two of the result sets have different column and data type structures.

The additional requirements of these claims are disclosed on at least pg. 7, para. [0022] and pg. 8, para. [0024] of the Specification.

Applicants submit that these claims are patentable over the cited art because they depend from claims 1, 15, and 29, which are patentable over the cited art for the reasons discussed above, and because the added requirements in combination with the base claims provide further grounds of distinction over the cited art. Further, for the reasons discussed above, the Examiner has not cited any part of Diamond that discloses the claim requirement of returning multiple result sets from the stored procedure in the claimed single data object. Applicants further submit that the cited Diamond does not disclose that at least two of the returned result sets have different column and data type structures.

Added independent claims 47, 49, and 51 recite a method, system, and article of manufacture for enabling access to data, and require: receiving a call from a client to invoke a

remote interface method; accessing, with a remote interface implementation, parameters from the received call in response to the invocation of the remote interface method; generating a stored procedure call with the accessed parameters as input parameters of the stored procedure; transferring the stored procedure call to a stored procedure named by the call to execute; receiving output from the stored procedure including at least one parameter resulting from at least one transformative operation performed on data in a database table satisfying a query condition including at least one of the input parameters to the stored procedure; inserting the received at least one output parameter from the stored procedure into a data object; and returning the data object to the client.

The Specification discloses the requirements of these claims on pgs. 7-11. Further, the requirements concerning the output comprising at least one parameter resulting from at least one transformative operation, i.e., calculation, performed on data in a database table satisfying a query condition including at least one of the input parameters to the stored procedure are disclosed on at least pg. 7, para. [0021].

The cited Diamond discusses using the URL to invoke a stored procedure to return a result set or object. The Examiner has not cited any part of Diamond that discloses that the output from the stored procedure comprises at least one parameter resulting from at least one transformative operation performed on data in a database table satisfying a query condition including at least one of the input parameters.

Accordingly, claims 47, 49, and 51 are patentable over the cited art.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-51 are patentable over the art of record. Applicants submit the fee for the claim amendments. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0460.

\\

\\

\\

Amdt. dated February 16, 2006
Reply to Office action of Nov. 16, 2005

Serial No. 09/845,065
Docket No. STL920000073US2
Firm No. 0055.0031

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

Dated: February 16, 2006

By: 

David W. Victor
Registration No. 39,867

Please direct all correspondences to:

David Victor
Konrad Raynes & Victor, LLP
315 South Beverly Drive, Ste. 210
Beverly Hills, CA 90212
Tel: 310-553-7977
Fax: 310-556-7984